CLAIMS :

 A binder resin for coating paste for forming a film or a film pattern comprising inorganic powder by coating,

which comprises a modified polyvinyl acetal resin comprising structural units represented by the following general formulas (1), (2), (3) and (4):
[Chem. 1]

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$$\begin{array}{c}
-\left(\text{CH}-\text{CH}\right) \\
\text{O} \\
\text{C}==\text{O} \\
\text{R}^{1}
\end{array}$$
(1)

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$$\begin{array}{ccc}
-\left(-CH_2-CH\right) & (2) \\
OH &
\end{array}$$

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$$-\left(-C_{n}H_{n+2}-\right) \qquad (3)$$

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$$\begin{array}{c|c}
\hline
\text{CH}_2 & \text{CH} & \text{CH}_2 & \text{CH} \\
\hline
\text{O} & \text{O} \\
\hline
\text{CH} & \text{R}^2
\end{array}$$
(4)

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in the formulas, R¹ represents a straight chain or branched alkyl group having 1 to 20 carbon atoms, and R² represents hydrogen, a straight chain, branched or cyclic alkyl group having 1 to 20 carbon atoms, or an aryl group; and n represents an integer of 1 to 8; and further in the modified polyvinyl acetal resin, a content of the structural unit represented by the general formula (3) is 1 to 20 mol% and a content of the structural unit represented by the general formula (4) is 30 to 78 mol%.

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2. The binder resin for coating paste according to claim 1,

wherein a content of the structural unit represented by the general formula (2) is 20 to 30 mol%.

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3. The binder resin for coating paste according to claim 1 or 2,

wherein R^2 is CH_3 and/or C_3H_7 .

4. The binder resin for coating paste according to claim 1, 2 or 3,

wherein an α -terpineol solution of the modified polyvinyl acetal resin adjusted to have viscosity of 6.0 Pa·s measured at 25°C under the conditions of a shear rate of 60 s⁻¹ using an E type viscometer has a ratio (η 60/ η 600) between viscosity η 60 measured under the conditions of a shear rate of 60 s⁻¹ and viscosity η 600 measured under the conditions of a shear rate of 600 s⁻¹ at 25°C using an E type viscometer being 2.0 to 5.0.

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5. The binder resin for coating paste according to claim 1, 2 or 3,

wherein an α -terpineol solution of the modified polyvinyl acetal resin adjusted to have viscosity of 6.0 Pa·s measured at 25°C under the conditions of a shear rate

of 60 s^{-1} using an E type viscometer has a phase angle at 1 Hz and at a stress of 1000 Pa being 87° or more.

6. The binder resin for coating paste according to claim 1, 2 or 3,

wherein an α -terpineol solution of the modified polyvinyl acetal resin adjusted to have viscosity of 6.0 Pa•s measured at 25°C under the conditions of a shear rate of 60 s⁻¹ using an E type viscometer has a ratio ($\eta600 \rightarrow 60/\eta600$) between viscosity $\eta600$ measured at a shear rate of 600 s⁻¹ and viscosity $\eta60$ measured after a lapse of 10 seconds from changing a shear rate to 60 s⁻¹ using an E type viscometer being 1.9 or more, in the case of changing a shear rate from 600 s⁻¹ to 60 s⁻¹ at 25°C.

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7. Conductive paste,

which comprises the binder resin for coating paste according to claim 1, 2, 3, 4, 5 or 6, conductive powder and an organic solvent.

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8. Ceramic paste,

which comprises the binder resin for coating paste according to claim 1, 2, 3, 4, 5 or 6, ceramic powder and an organic solvent.

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9. Glass paste,

which comprises the binder resin for coating paste according to claim 1, 2, 3, 4, 5 or 6, glass powder and an organic solvent.

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10. An application as a binder resin for coating paste of a resin composition comprising a modified polyvinyl acetal resin consisting of structural units represented by the following general formulas (1), (2), (3) and (4):

[Chem. 2]

$$\begin{array}{c}
-\left(\text{CH}-\text{CH}\right) \\
\text{O} \\
\text{C}==\text{O} \\
\text{R}^{1}
\end{array}$$
(1)

$$\begin{array}{c}
-\left(-CH_2--CH\right) \\
OH
\end{array}$$
(2)

$$\frac{-\left(-C_{n}H_{n+2}-\right)}{-\left(3\right)}$$

in the formulas, R¹ represents a straight chain or branched alkyl group having 1 to 20 carbon atoms, and R² represents

30 hydrogen, a straight chain, branched or cyclic alkyl group having 1 to 20 carbon atoms, or an aryl group; and n represents an integer of 1 to 8; and further in the modified polyvinyl acetal resin, a content of the structural unit represented by the general formula (3) is 1 to 20 mol% and a content of the structural unit represented

by the general formula (4) is 30 to 78 mol%.

11. A method of forming a film comprising inorganic powder,

which comprises a step of mixing a binder resin for coating paste comprising a modified polyvinyl acetal resin comprising structural units represented by the following general formulas (1), (2), (3) and (4), an organic solvent and inorganic powder, and preparing paste form:

10 [Chem. 3]

$$\begin{array}{c}
-\left(\text{CH}-\text{CH}\right) \\
\text{O} \\
\text{C}=\text{O}
\end{array}$$
(1)

$$\begin{array}{ccc}
-\left(-CH_2--CH_{-}\right) & (2) \\
OH
\end{array}$$

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$$-CH_2$$
 $-CH_2$ $-CH_2$ $-CH_3$ $-CH_4$ $-CH_5$ $-$

in the formulas, R¹ represents a straight chain or branched alkyl group having 1 to 20 carbon atoms, and R² represents hydrogen, a straight chain, branched or cyclic alkyl group having 1 to 20 carbon atoms, or an aryl group; and n represents an integer of 1 to 8; and further in the modified polyvinyl acetal resin, a content of the structural unit represented by the general formula (3) is 1 to 20 mol% and a content of the structural unit represented by the general formula (4) is 30 to 78 mol%.